

ABSTRACT OF THE DISCLOSURE

Disclosed is a valve plate structure comprising: a suction valve for inhaling a low pressure of coolant through a linear reciprocating movement of a piston and an opening and closing operation in response to the back-and-forth movement; a valve plate coupled with the suction valve, and including a suction port for inducing the low pressure of coolant through the piston movement, a discharging port for discharging a high pressure of coolant through piston movement and a groove section having a plurality of cavities provided to surround the outside of the suction port or the discharging port; a discharging valve coupled with the valve plate for discharging the high pressure coolant through the back-and-forth movement of the piston and the opening/shutting operation in response to the back-and-forth movement; and a head cover coupled with the discharging valve, and including a suction tube formed at a position corresponding to the suction port of the valve plate and a discharging tube formed at a position corresponding to the discharge port of the valve plate. The grooves formed of the plurality of cavities can damp vibration and noise having wide bands of frequency and amplitude generated from collision between the valve plate and the suction and discharging valves.

PROSECUTION FILED 4-26-04